48

SCOPE

NZ METAL ROOFING MANUFACTURERS INC.

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The NZ Metal Roofing Manufacturers Inc.

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Visit our website at: www.metalroofing.org.nz

Below is a brief introduction to the 2019 executive of The Metal Roofing Manufacturers Inc. It is intended that Scope be representative of the Metal Roofing and Cladding Industry in both commercial and residential sectors. Your submission of material you consider is of interest is welcomed be it design, research, manufacture or construction.

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Aidan Taylor: Dimond Roofing
Graeme Wilson: Gerard Roofs
Stuart Hayman: Co-opted consultant

PROJECTS

ARTICLES

PRIVACY BY DESIGN

Kiwis are renowned for enjoying outdoor living in their backyards, shielded from the streets and its associated passersby and traffic. So, when clients wanted to use their north-facing front yard, which faced on to a cul de sac, for entertaining, it provided some challenges for Solutions Architecture.

They responded by setting the house back on the gently sloping site to create a generous front courtyard screened from the road by a plastered pillared fence with gated entry. A driveway down the eastern boundary allows access for cars to a garage at the rear corner of the house, freeing up the front yard.

Mark Brown, of Solution Architecture, said that by designing a U-shaped home, an internal courtyard was also created. This is a more sheltered space, opening off the family room and kitchen, and has a Louvretec roof so it can be enjoyed in all conditions. He said the clients, who had done several large projects in collaboration with his firm prior to this one, had a clear idea of what they wanted from their new home.

They came to him with a brief that included “something contemporary looking without being over the top”, multiple living spaces to cater for extended family, and the ability to close off one living area from the other.

Plumbdek® met the owners' desire for a contemporary look

They also wanted a master bedroom with a spacious en suite and privacy from the other bedrooms. And the fifth bedroom on the ground floor had to have a relationship with the outdoors as it would also serve as an office. The kitchen, while part of the main open plan living area, had to have a scullery, which is ventilated, for food preparation.

The two differing courtyards also fulfilled their request for open and covered outdoor living spaces.

A mono-pitched roof in longrun Plumbdek® in 'Greyfriars' met the owners' desire for a contemporary look and aligned with their decision to use robust materials throughout.

The house is built with plastered brick, Rockcote Integra air rated concrete plastered panel system, and some composite weatherboard. The mixed claddings and muted exterior tones help to soften the two-storey home in the streetscape.

With family coming and going, the clients wanted the lounge area to be able to be shut off from the family kitchen space.

Mark said, "In consultation with them, we created a glazed pull-apart cavity slider system; this creates the division with a visually permeable aspect from one room to the other. Large exterior sliders complement the home in terms of access."
He adds, "A bridge on the first floor separates the master bedroom and en suite from the other bedrooms, while garaging to the rear does not dominate the street frontage and uses the south-eastern corner well."

Moving past the landscaped front courtyard takes you through double front doors into a foyer with formal dining and living (with gas fire) to one side, and family room and kitchen to the other side. The office, or fifth bedroom, is across the internal courtyard from the family room and kitchen. On this side there is also a laundry and guest bedroom with en suite.

Upstairs there are three more bedrooms with the master occupying its own wing and having a spacious walk-in wardrobe and en suite with hidden walk-in shower.

Modern, muted tones are also to the fore in the interior with furniture, cushions and ornaments providing pops of colour.

Mark said, "The owners say they find the house very easy to live in and enjoy the warmth and light-filled aspect this house gives them without overheating."

Solutions Architecture Ltd
Pakuranga-based Solutions Architecture is a small but experienced design team with over 20 years in the industry and a member of The Designers Institute of New Zealand.

"We keep abreast of the latest developments and practices by being involved with and attending regular professional development seminars."

Mark Brown holds a Department of Building and Housing (DBH) Design License and is an Assessor of Architectural Practitioners for the Department of Building and Housing.

The firm has completed new homes from 60sq m to over 1500sq m, ranging in cost from $100,000 to over $6 million.

Architect: Mark Brown, Solutions Architecture
Telephone: 09 576 7472
www.solutionsarchitecture.co.nz
Roofing: ColorSteel® Maxx Plumbdek® in 'Greyfriars'
Roofing Manufacturer: Steel & Tube Roofing
Telephone: (09) 273 7610
www.steelandtube.co.nz
Builder: ProBuild Residential Ltd
Photography: Mark Scowen, Intense Photography
Telephone: 0212468367

SHOWCASING THE TIRIMOANA DEVELOPMENT IN WANGANUI

In its role of being the ‘gateway’ to stage one of the Tirimoana subdivision in Wanganui, this home, with its 30-degree pitch, u shaped roof was a good benchmark for the homes to follow in the Otamatea development.

Built by DML Construction Ltd for sister company Tirimoana Developments, the design brief for registered architect Sophie Ross was to maximise sunlight and outdoor living spaces on a limited site, while also creating a degree of privacy.

These features in particular were a drawcard for the home’s owner, Claire Hoare when she moved to Wanganui from a farm north of the city along the Wanganui river. She says the home is warm, inviting and easy to live in with appealing open plan features. The piece de resistance for Claire since purchasing the show home has been the dry river bed, stone planting created out the front, designed by local artist friend Chris Gulley.

The single level home, with a 260sqm footprint, features three double bedrooms, a single bedroom/ study, a walk-in wardrobe, en suite and one bathroom and separate toilet. There are two separate living areas with a fully open plan kitchen, dining and lounge.

The roof design is two front gables that run parallel to each other and are linked by a hipped section over the spacious double garage at the rear of the house forming a u-shaped roof. Inside the two gables are a courtyard and an outdoor living area that features an outdoor fireplace with a cedar canopy above for those chilly winter nights.

Another feature of Sophie’s design includes light-filled hallways with full height openings to the bedrooms.

Colorsteel® Maxx® Corrugate was chosen to maximise the lifespan in a severe environment

Materials specified by the client, Tirimoana Developments included board and batten wall cladding in harmony with cedar weatherboard for areas of the home facing the road. The plans originally called for a Heritage Tray type profile but the switch to corrugate for the show home matched the client's quest for simplicity. With a 30 degree pitch the roof was quite challenging to install and the roof installer was extremely fussy on the fine details.

The product was .40 Colorsteel Maxx Corrugate in Slate, DML Construction opting for the best performing Colorsteel on the house to maximise the lifespan of the roof and taking into account Wanganui's generally severe environment.

This home made quite a statement at the entranceway to this new area of Wanganui and the dark colour complements the use of cedar panels to break up the dark wall cladding. Stage 2 of this subdivision is now underway in a partnership between DML Construction Ltd and Platinum Homes.

Sophie Ross Architect

Sophie Ross Architect is a boutique architecture studio, creating personalised and unique homes. Sophie offers a friendly, relaxed service where the client will always receive the personal touch as she likes to ensure the design process is enjoyable with any concerns the client may have being removed to the satisfaction of both parties.

Architect: Sophie Ross
Company: Sophie Ross Architect
Telephone: 027 306 6710
Email: sophie@srossarchitect.co.nz
Builder: DML Construction Ltd
Roofing and Wall cladding manufacturer: Wanganui Steelformers
Roofing and Cladding Installer: Gullery Roofing
Roof profile: Colorsteel® Maxx® Corrugate in Slate

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REPORT ON CODE OF PRACTICE UPDATE AS FROM 1ST NOVEMBER AND ON THE PDF VERSION

NZMRM has earlier announced that the online version of the Code of Practice (V 3.0) will be reviewed and updated quarterly. This will continue until all sections have been reviewed and continue in the future as updates become necessary.

Updates will come in three levels/categories

- **Category 1 - Minor Errata**
  Correction to spelling, grammar or formatting that have no bearing on the substance of the clause. These changes will be recorded on the website only and not individually included in an emailed update.

- **Category 2 - Editing and rearrangement**
  A clause or section of clauses has been rewritten to some extent for better articulation of the existing recommendation. The substantial recommendations are not altered. These changes will be recorded on the website, and will be cited in an emailed update.

- **Category 3 - Substantial change to recommendation**
  A substantial change in a specific recommendation of the COP has taken place. A review of existing project documentation against the new clause is considered essential. These changes will be recorded on the website, and explained with detail in an emailed update

The most recent update to the online COP was on 1 November 2018.

In this update the COP clause External Moisture has been split into four sections for purposes of clarity and objectivity. External Moisture Overview and External Moisture Roof Cladding, Flashings and Penetrations have been updated into separate sections to more closely reflect good trade practice and the requirements of NZBC Clause E2 – External Moisture.

- **Section 6 External Moisture** - Overview now gives a general introduction and overview of NZBC Clause E2 – External Moisture.

- **Section 7 External Moisture** - Roof Cladding discusses requirements for roof cladding.

- **Section 8 External Moisture** - Flashings deals with flashings at junctions.

- **Section 9 External Moisture** - Penetrations recommends good practice for penetration design and installation depending on position, size, and application.

All clauses and sub-clauses in these sections have been substantially revised and drawings updated to show details more clearly.

Wall cladding has been deleted from External Moisture subject to a comprehensive separate review at a later date.

PDF version
There have been a number of requests since the issue of V 3.0 for a downloadable pdf version for access when off-line, or where internet connection is poor or not practicable. This can now be found at the beginning of the online version and can be downloaded, but note that the Online version of this document is the most up-to-date and in the case of conflict the Online version prevails over any saved or printed version.

The PDF copy of the Code Of Practice was issued as at 1 October 2018. The Online COP was updated on 1 November 2018, and the PDF version issued on 1 October 2018 is presently in final review, and will include the November 1st updates in the near future.

You can access all updates at;
www.metalroofing.org.nz/cop/revision-history

A SMALL COMMUNITY CAN ACHIEVE BIG THINGS

The Gore Playcentre was at a crossroads back in 2014: it was outgrowing its current building and must find the funds to meet an increase in lease or find a new home. The Gore Toy Library and Parents Centre were facing similar issues with unsustainable lease arrangements.

This predicament facing pre-school facilities kick started an idea that quickly became a project the town of Gore (population 10,000) could embrace and be proud of.

The concept of a joint facility – a venue that would serve all the needs of the community – was spear-headed by three women – Shelley Lithgow, Bronnie Grant and Bernadette Hunt, leading to the Gore Kids Hub Charitable Trust being formed.

From the outset the Kids Hub was to engage local businesses since the centre was to be entirely community funded. Admore Designs director, Phil Checketts was a logical choice being a local architectural designer with the credentials to project manage the joint venture.

Site unseen

Without a site secured Phil was engaged to incorporate all three groups in one building. Without a site/layout and without any idea of budget or any style being defined, Phil set about considering what form the design should take – definitely child friendly, educational, fun and vibrant. The idea of using colour was a strong driver as this could also pick up on colours in the adjacent multisport complex.

There was a suggestion that the council may gift some land and Gore District Council eventually agreed a site for the new Kids Hub adjoining the multisport complex which accommodates the swimming pool, ice rink, hockey field and indoor

From the outset the Kids Hub was to engage local businesses since the centre was to be entirely community funded.

A dedicated team of organisers and fund raises made the Kids Hub possible. From left to right: Tracey Powley, Lisa Sanson, Bernadette Hunt Shelley Lithgow, Casey Eason, Kelly Moriarty Diana Wright, Bronnie Grant (President), Kim Eckout (Facility Manager)

stadium. Phil's first design concept presented was approved and everyone came on board with the vision, the only surprise being the land gifted from council was on the opposite side of the complex which had its own challenges.

An ambitious time frame to achieve Kids Hub was agreed in August 2014 with fund raising for the build moving into top gear. An application to the Mataura Licensing Trust, celebrating its 60th year was successful to the tune of $600,000 followed by grants from the Community Trust of Southland, the Play Centre Association and Lotto. But it was the sheer hard work of Shelley, Bronnie and Bernadette who organised 25 fund raising events over 18 months that brought the Kids Hub project alive in the Gore community and surrounding districts.

Design criteria

"The brief was fairly simple", says Phil. "I was given a basic layout of what they needed and then it was left to me to come up with the detailed particulars. The brief contained the approximate size of space that each group would need and the inter-relationship needed between the groups i.e. what could be shared and what needed to be separate. We had the function but not the form.

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The Kids Hub committee were excited with Phil's first concept which had been careful to marry a concept that was visually stimulating for kids with a building that was practical and easy to maintain. The final plans were ready to be submitted to council for building and resource consent when the Trust made a late decision to include an additional consulting room, office and meeting room – a request landed on Phil Checketts which required overnight re-working of the plans. By this time a group of local midwives had come on board along with Barnardo's as they too required operating space within the master plan.

Says Phil: "As I reflected on my own children's experience at the pre-school stage, and remembering how one of their favourite toys incorporated these attributes – colour, education and fun – (shapes in the slot toy box), we started designing a simple rectangular box form with a mono-pitch roof that would be cost effective given that fund raising for the project was coming from the local community. We added and subtracted from the rectangular structure by adding various shapes, holes and colours, carefully crafting a frontage that reflected this children's play toy effect while keeping the sides and back relatively plain to keep a lid on costs. Later in the design we enlarged the building to cater for Barnardo's and a midwives' group that came on board.

Eyes wide open

The design of the Kids Hub building is one of contrasts. On arriving at the rear entrance, the building is practical and smart with clean, smooth lines of Colorsteel Endura Sandstone Grey in vertical corrugate. The north side of the building has the wow factor with brightly coloured Titan panels paired with corrugate cladding offering an eye-opening contrast and visual stimulation for tiny visitors to this special space. Phil says his inspiration came from a child's toy with the huge angled verandas representing wide eyes blinking open.

Construction began in March 2015; Shane Knapp Building was awarded the tender, Shane's first major commercial construction project for his newly formed company. Shane engaged a group of sub-trades, all of them local, who had worked with him on residential projects for many years. This included Roofcraft (Gore) providing the roofing and cladding during some adverse conditions of snow under the direction of Roofcraft's Mike Grattan. Special consideration was given to all flashing details and finishing to meet the quality safety requirements for the building's pre-school clients.

When Shelley Lithgow sat down with another project management company at the time the initial concept for Kids Hub was hatched, she was told the trust was dreaming if it thought the time frame and budget could be achieved.

The doubters were proved wrong when Kids Hub opened on January 30, 2016 – built on time and on budget $1.8 million – entirely financed through the Southland and specifically the Gore community.

The Mud run: One of 25 fund raising events organised over an 18 month period demonstrates the commitment of the local community to support the Kids Hub project.

A sum of $380,000 had been set aside for a public play area with matted playground equipment to accompany the Kids Hub centre.

As architect designer for Kids Hub, Phil Checketts says a simple children's toy that brought all shapes, sizes and colours together in one box brought the community together as one to help raise funds and ensure the project was a success. It was a team approach with huge effort put in by the three women that started the process.

The last-minute addition to Phil's original plans has already demonstrated the wisdom of the additional space with two midwives and Barnardo's now using the facility along with a chiropractor and a teenage sexual health consultant.

Kids Hub is a development to demonstrate what tenacity in the community, collaboration, clever design and utilisation of local businesses can bring to such a project – completely funded from the local community.

Admore Designs
Formed in Gore in 2006, Admore Designs' principal, Phil Checketts has spent 30 years in architectural design and detailing around Southland and Otago. Projects have ranged from a new museum, vet club, restaurant, childcare centre, primary and secondary school work, hair salon and beauty clinic to new homes and house alteration work. The firm has also designed shearing sheds, commercial and industrial buildings, using its creativity, knowledge of construction techniques and clear communication to identify aspects of design that are important to clients so their ideas can be incorporated into each unique situation.
Phil is a member of ADNZ and is a Licensed Building Practitioner with a Design 2 licence.
www.admoredesigns.co.nz Facebook and Instagram feature some of their designs.

Architectural Designer: Phil Checketts
Admore Designs, Gore
Builder: Shane Knapp Shane Knapp Building, Gore
Roofing & Wall Cladding Manufacturer:
Marshall Industries, Invercargill
Roofing & Cladding Installer: Roofcraft Industries Ltd,

Photography courtesy of The Roofing Association of New Zealand

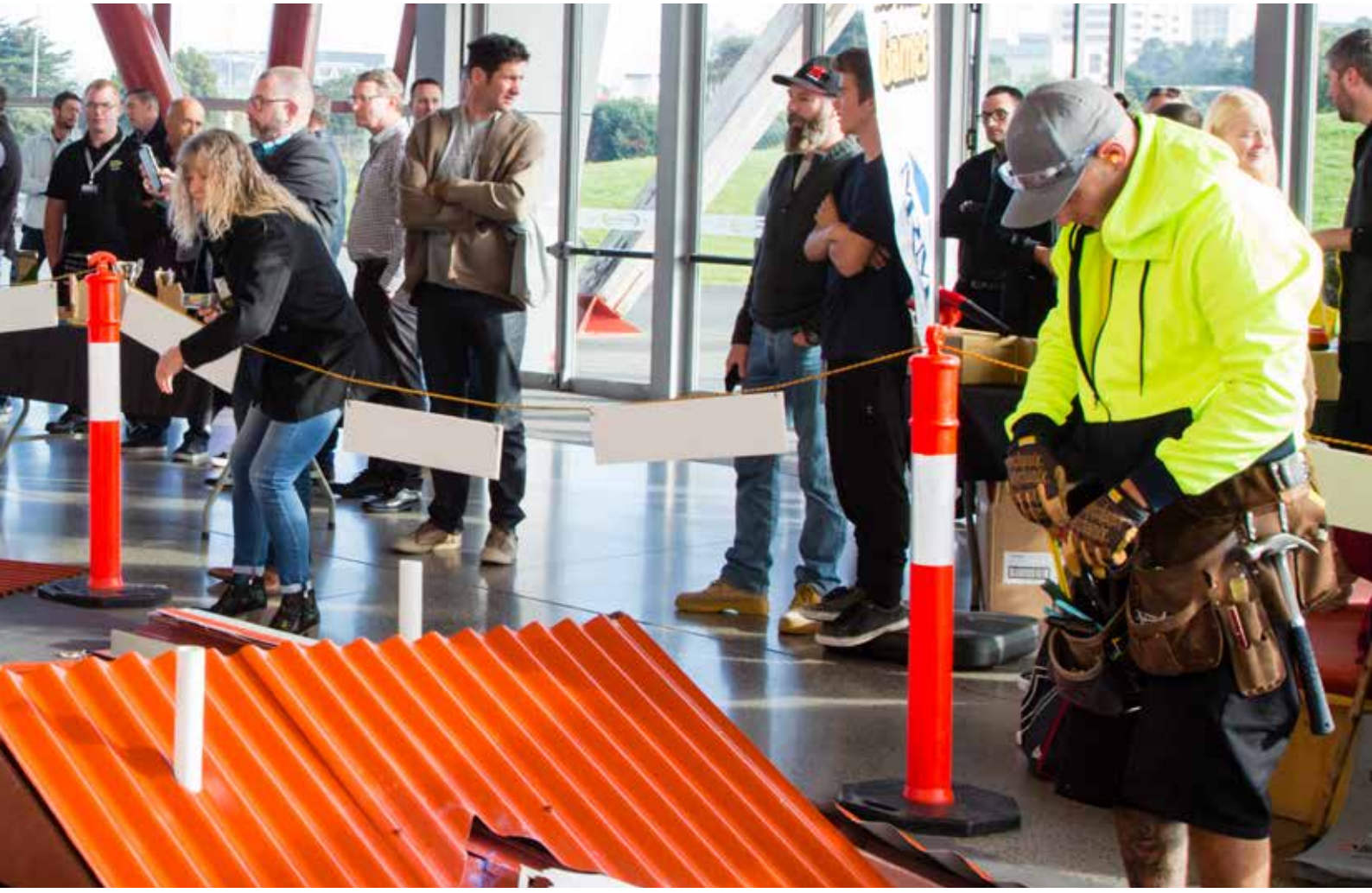
Roofing Games

MRM's 2018 Roofing Games roadshow concluded in July when finals were held during the Roofing Association of New Zealand (RANZ) conference in Auckland. The inaugural event attracted 350 installers competing for total prize pool of $15,000, courtesy of industry suppliers and manufacturers.

As a vehicle to measure the performance and skill levels of the country's installers, the Roofing Games has proved a novel way to monitor, train and educate those willing to try their luck in this inaugural event.

Keeping up with trends and new products, changes in techniques, compliance with the Code of Practice and the Building Code, collectively ensures that

MRM's 2018 Roofing Games roadshow finalists performed to a high standard proving once again that there is always more than one way to achieve an aesthetically pleasing, watertight roof.



metal roof installers need to stay up-to-date with all requirements. Seeing the finals in action was a clear demonstration of how complex the work of a roofer can be.

Aside from the educational benefits, the Roofing Games created some camaraderie in the industry, borne out by the interest the finals attracted with RANZ conference delegates. The generous support of sponsors (NZ Steel, Edging Systems, Metalcraft, Roofing Industries, Dimond Roofing, Steel & Tube, Konnect, Pacific Coilcoaters, Freemans Roofing, RANZ and Fribesco), ensured there were rewards at both finals and regional level for those willing to have a go.

The eight finalists, four in the skilled category and four at intermediate level, performed to a high standard, proving once again that there is always more than one way to achieve an aesthetically pleasing, watertight roof. This was evidenced to best effect in the flashing details performed by the eight finalists.

Roofing Games Finalists 2018. Skilled

Shane Ratcliffe, Roofrite, Taupo (Winner)

Matt McDougall, Futureproof Roofing, Christchurch (runner up)

Zach Fowler, Capital Roofing Solutions, Wellington

Courtney McDowell, ATD Roofing, Cromwell

The modules for the event were based on the RANZ flashing handbook, featuring the common details found in residential roofing. The modules were transported to manufacturing sites for sessions of competition and training, culminating in the July finals.

One of the judges, Rex Olsen commented that the concept was a great idea in that it got people interested in the role of a roofer and gave installers a chance to put their skills on display.

Max Brough and Noel Sands, who took the roadshow to the North and South Islands say MRM's inaugural event has demonstrated the value of this concept for improving workmanship and identifying gaps in current training.

Warren Oliver, MRM vice-president described the Roofing Games as an exercise for the betterment of the whole metal roofing industry. The acute shortage of skilled installers was a challenge but the competition attracted such lively interest that many recognised how complex some details could be. He said although there had been poor participation in some areas, MRM was committed to the concept and a nationwide, industry roadshow is planned for 2019, showcasing the best of suppliers, manufacturers and fixers, culminating in a finals event.

Roofing Games Finalists 2018. Intermediate

William Chapman, Freeman Roofing, Blenheim (now Rodney Roofing 2004 Ltd, Auckland (winner)

Connor Deeley, Turfreys Roofing, Palmerston North (runner up)

Cory Green, Freeman Roofing, Nelson

Gina Reuben, THC Roofing, Tauranga

Max Brough was rapt by the nationwide support in the first year and is already putting together a plan to make the 2019 event a nationwide industry roadshow, showcasing the best of suppliers, manufacturers and fixers, culminating at a finals event at a yet to be decided time and location.

The skilled section winner was Shane Ratcliffe of Roofrite (Taupo), a well-seasoned installer, having learned the trade from his roofer father some 25 years ago. Despite the pressure of competing in a confined space, Shane approached the final as though it was a standard day at work.

Twenty-year-old William Chapman, the intermediate section winner, seemed to take the same approach, unfazed by competing under the watchful eye of many conference delegates. Apprenticed to E R Freeman (Blenheim), William is now with Rodney Roofing 2004 Ltd.

Shane won a $5,000 travel prize along with a $2,500 Milwaukee tool kit and William, $2,500 of travel vouchers and a $1,250 Milwaukee tool kit.

Following the success of this years Roofing Games it will become an annual event and roofers across the country are encouraged to enter. Registration at: http://roofinggames.co.nz/register/

METROTILE CF SLATE PROVIDES A NEW SOLUTION FOR AN OLD PROBLEM

Even before the Christchurch earthquakes Paul Ward and his family were having issues with their house, namely a leaky roof. He and his wife, who had design input, had built the house 18 years ago and used an asphalt shingle product imported from Canada for the roofing.
"We had issues with the roof really from day one," said Paul. "It was leaking around the skylight windows and through the gullies, and we tried some repairs, but they never really worked."

When the earthquakes hit, their house was damaged and eventually written off by insurers. Rather than let them tear it down, Paul bought it back and decided to rebuild it.

"We've got a swimming pool, tennis court and horses here so we weren't ready to let it go." The rebuilding process involved re-levelling the house, and replacing the plaster over polystyrene cladding, which was wrecked by the earthquakes, with Hebel block over cavity battens.

When it came to re-roofing, Paul asked Kevin Crawford, of Canterbury Roofing Contracting Limited, to provide him with some options. Kevin said, "My initial request from the owner was, 'I am sick of my roof leaking; I want it taken off and replaced with iron'.

It was agreed with the homeowners that Metrotile's CF Slate was the standout choice

"The roof was only 18 years old, had been leaking for many years and the owner had recently spent a considerable amount on repairs, which had failed. "As this was a re-roof, water tightness during the works was a big consideration. We also had to consider the height and the pitch of the roof in terms of accessibility, wind lift, extra weight introduced with both purlins and iron, and flashing details with the extra height of a purlin and iron, dormers, parapets, skylights etc."

Kevin said that after considering all the options, it was agreed with the homeowners that Metrotile's CF Slate was the standout choice.

He added, "As well as keeping with the current look of the house, it was most certainly going to be the simplest to install. It was able to be direct fixed over the existing asphalt shingles and into the plywood, a synthetic underlay was installed as a barrier between the two roofs."

The decision was made easier by the fact that Paul and his wife had originally chosen a robust 12mm marine grade ply for their roofing substrate, which the CF Slate could be fixed to.

Kevin said, "As the new tiles were laid across the roof, and from the bottom up, we were able to complete the roof face by face thus keeping watertight the entire time."

A builder was on hand to replace any bad timber that was found as the re-roof progressed.

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The assurance of a steel roof, with the appearance of the shingle.

Kevin said the Christchurch climate is very testing on roofs, with rain, frost, hot sun, and drying winds.

“Steel roofs are proven to withstand these conditions. The pressed tile roofs can provide the assurance of a steel roof, with the appearance of the shingle.”

And the CF Slate has a 50-year warranty.

Paul, who project-managed the rebuild, said the project took about a year, and the roofing job about a month.

He said, “Kevin was great to deal with and really stepped up to the plate. For my part, he was superb and gave us an amazing looking result. “We’ve got the house back to where it should be, and for the first time in 18 years I can say hand on

Metrotile CF Slate comes in a choice of natural weathered tones to recreate the visual appeal of timber, asphalt or fired-clay shingles

heart that the roof is not leaking. And it looks brilliant – it looks like a shingle and I love the low profile and the shadows it casts.
"We looked at quite a lot of products and this was the best solution."

Paul said he can't wait for the next project, which is to re-roof the barn in the same CF Slate.

Metrotile CF Slate

Metrotile's new roofing tile that makes a difference to the consumer and the installer. The CF Slate textured-finish tile is part of Metrotile's new "Concealed Fastening" roofing products. With an interlocking Secure Lock (SL) lap system that can be installed direct-to-deck or on batten, this innovative system offers genuine roof water tightness and is an easy-to-install option, even over existing roofs.

Because the CF Tile – in Shingle or Slate – can in many cases eliminate the need for removal of an existing roof, it is a cost-saver plus reduces time to install, alleviating frustrations and customer concerns with opening their home to the weather.

The CF Slate captures the subtle look and charm of low-profile traditional shingles. With a Metrotile CF Slate roof, you can eliminate the delaminating, lifting and general break-down caused by strong UV rays and high winds associated with other shingle roofs. With its exceptional durability, a Metrotile CF Slate roof offers superior performance and all the advantages of stone-coated steel.

At approx. 6.5kg/m2, a Metrotile roof is a 'Lightweight Roofing System', so considerable cost savings can be achieved during new construction along with being the perfect replacement for your old roof. A Metrotile roof lets you improve the look and value of your home in a matter of days.

Metrotile CF Slate comes in a choice of natural weathered tones to recreate the visual appeal of timber, asphalt or fired-clay shingles. Its 50-year warranty will give any Kiwi building their castle true piece of mind in being protected from New Zealand's harsh weather conditions.
www.metrotile.com

Roofing: Metrotile CF Slate in 'Charcoal'
Roofing Supplier: Metrotile Roofing Systems
Telephone: 09 299 9498
www.metrotile.com
Roofing Installer: Canterbury Roofing Contracting Ltd, Christchurch
Telephone: 027 444 2346

A NEW HOME FROM THE ASHES

It would have added more cost to rebuild it than to demolish it and start again

When a friend planned to rebuild his fire-damaged home Wellington Architect David Pawson stepped in to help out with help from Tony Hodson from EBUILD who were the Builders and Project Managers.

With the collaboration between Architect, owner and a Quantity Surveyor a decision was reached that it would be more cost effective to demolish the house rather than work with what was left of the mostly burnt-out two-storey home.

"It would have added more cost to the client to keep it and rebuild it than to demolish it and start again," said David. "So, we stripped the building right back to the slab that was there."

The plans that were originally drawn up by a draughtsman for the replacement home were very similar to the original house.
"We used the same footprint and the same geometry although that was changed slightly on the lean-to, and we added more decking to get more indoor-outdoor flow," said David.

Inside, the layout was changed on both floors to make the most of the west-facing sea views over Island Bay and out across Cook Strait from the living spaces. However, the same number of bedrooms on both levels were retained with the addition of an extra bathroom on the lower level.

The one thing David did insisted on was cladding the house mostly in Kāhu profile COLORSTEEL® MAXX®.

The one change that David did insist on though, was cladding the house mostly in Kāhu profile COLORSTEEL® MAXX®, with the roofing in MC700 profile COLORSTEEL® MAXX®.

"The designer had gone with random pattern cedar board and batten cladding but the maintenance on cedar is huge on a two-storey place in that sort of harsh environment," he said "The house is right on a high ridge on a 60-degree slope overlooking Island Bay so it's a pretty severe environment that the longrun would cope much better with."

David said the cladding, which was run both vertically and horizontally, as well as being lower-maintenance and more cost-effective, also gave the home some beautiful clean lines.

"A lot of work went into the detailing of the cladding and flashings – especially around the windows to give the house a nice crisp look," said David.

Builders EBUILD and roofing and cladding installer Royal Roofing collaborated over flashing details for inter-storey junctions, windows, decks and the change from horizontal to vertical cladding, which was tough to execute. Working at height on the south coast of Wellington was a challenge in itself. David said, "The owner preferred to use cedar in the two deck areas which are tactile zones where you can touch the walls and the cedar provides more warmth."

Wooden joinery was replaced with aluminium-framed double glazing, and insulation was upgraded throughout the house.
The two-storey house steps down the slope with the main living floor at street level where a garage fronts the road.

The bottom floor of the house, which has a fire barrier from the upper floor, is self-contained accommodation, designed for rental purposes, with its own kitchen and two bathrooms. In the original dwelling, the living areas were more towards the rear but in the new home they occupy the western end of the floor to make the most of the views and the afternoon sun and these rooms open out to the

A lot of work went into the detailing of the cladding and flashings – especially around the windows to give the house a nice crisp look

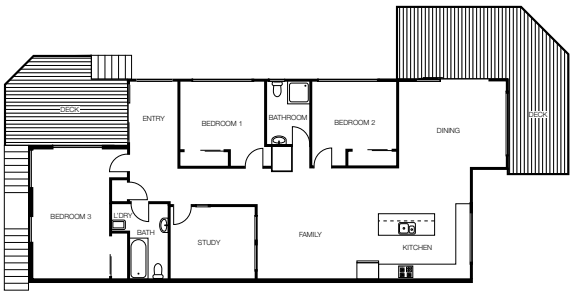
extended deck with timber balustrading. There is also a smaller deck on the northern side of the house by the front door.

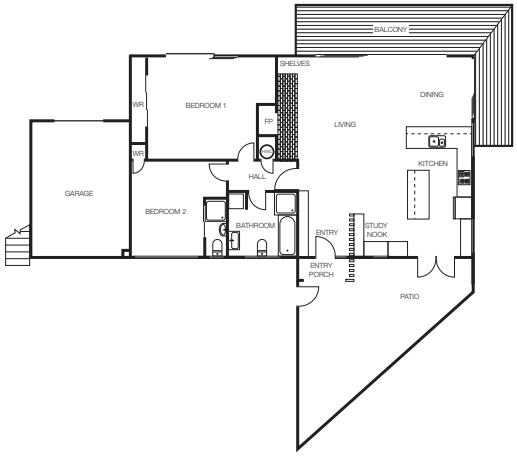
Upstairs, there are two bedrooms, and the open plan living area – featuring a stone surround open fire – has a cathedral ceiling with exposed rafters, flowing out to a glass balustraded deck.
Plywood floors throughout the home are either carpeted or tiled.

EBUILD - Builders and Project Management.

EBUILD brings to any building project a portfolio of skills that manage the smooth flow of construction from design through to completion. Tony Hodson, Construction Manager for EBUILD, is clear "We were not involved in the design process of the Buckley Road project but we were able to offer our skills and knowledge to the designer, architect and owner to enable a quality end product that worked in the construction process."

Generally the company is involved in project management and building on many levels from renovations, commercial developments and new residential homes. The preference is to manage entire projects which often extends to working with designers, acquiring tenders for building and sub-trades, building consents and inspections through to the final code of compliance certificate.





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Cladding: 0.40g Kāhu COLORSTEEL® MAXX®
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SPELDHURST COUNTRY ESTATE: A NEW ERA FOR LEVIN

With $150m of planned development including 400 new standalone homes and a community centre, Levin's new 'Speldhurst Country Estate' promises to be much more than a retirement village.

Developer and prominent local Wayne Bishop is not only passionate about providing the best possible lifestyle for Kiwi seniors, he wants the whole of Horowhenua to benefit.

Wayne has partnered exclusively with Gerard on what he calls his "legacy project" – one where the journey offers just as much community benefit as the destination.

Aged care in a rural setting
Situated in green pastures with the Tararua ranges to the east, Speldhurst naturally achieves a lush, rural feeling but with the atmosphere and connectedness of a town or suburb.

The homes are independent and individual in style, but do share common traits – mainly homeliness, functionality and space.

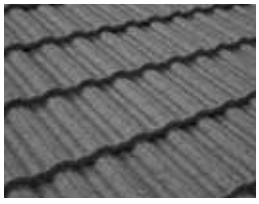
Wayne says it's about reflecting the needs and tastes of retirees, who don't necessarily want to downsize. "Normally seniors need to sell off all their possessions to move into an aged care facility or retirement village. Speldhurst is different. They can bring everything here, and I think it's one of the reasons it's proving popular."

Speldhurst is different. Residents can bring everything here and it's one of the reasons it's proving popular.

Alpine / Ashwood

Rockport / Ashwood

Corona / Ashwood



Tuffcoat / Ashwood

Milano / Ashwood

Range of Gerard profiles, colours and textures
Along with its scale and stunning rural setting, this aged care development is also notable for featuring five Gerard profiles in a range of textures and tones, making it a real-life product showroom.

While it's early days, the range is already on display with Gerard Alpine, Corona, Milano, Rockport and Tuffcoat profiles all featuring among the first stages of completed units.

The colour palette is also refreshing, with light and dark tones, subtle and bold greens and reds, and earthy greys and browns all combining to promote individually and expression.

Thinking 'roof first'
Wayne says the Gerard range reflects the importance of the roof in defining a home's overall style and character:

I design from the roof, down, and I think the roof plays an important role in the look of a home

A force for community good offering wider economic benefit from this and other construction projects.

"It's true that a lot of developers plan houses from the ground, up, and this means the roof can be the last consideration. I'm different. I design from the roof, down, and I think the roof plays an important role in the look of a home. I've used a lot of different roof products in the past – concrete, long run - but it became apparent early-on that pressed steel tile would be the way to go."

Gerard Certified Roofer provides additional value
Another key player is Gerard Certified Roofer, Allroof Solutions.

The Wellington-based operation is owned by Chris Burgess, who has a long-standing relationship with Wayne having roofed many of his previous developments.

Chris describes Speldhurst as the ultimate joint venture:"Well it's a huge project which is obviously pleasing. But we're also working with the upper end of the Gerard range, the premium products – there's Alpine, there's Rockport, there's Milano, there's textured and satin finishes. Gerard have really let me take the lead on the project but have also provided support, and Wayne's a great customer."

Community centre the 'hub'
If there's any irony to this story, it is how much life residents will living out of their homes - thanks mainly to a place they call 'The George'.
Wayne proudly labels it the 'hub' of the Speldhurst development, and it's easy to see why. With a towering clock feature and sprawling lateral design it's both the geographic centre and the focal point. On the inside, there's a large entertainment and lounging area, a café, a library with hundreds of volumes, PCs for web browsing, a full size billiards table, and a swimming pool – all under one Gerard Corona roof.
Soon it will be joined by a new bowling green and a hair salon, and for everything else, Levin's only a moment away.

Restoring local pride
Speldhurst marks the regeneration of a site that was formerly home to a hospital known as 'the Kimberley Centre'.

As a functioning hospital, 'the Kimberley' provided essential services for patients and their families, and numerous benefits for the wider community – but it's 2006 closure had since resulted in 85 derelict buildings, and a bit of embarrassment for Levin locals.

Determined for something great to take its place, Wayne's also celebrating the site's history through the repurposing of old timbers and materials in various places - including the main foyer of The George – and the resurrection of the old hospital chapel.

A community investment
Wayne wants Speldhurst to be a force for community good, and having run the numbers he's confident about the wider economic benefit of this, and other construction projects.

"Through my experience and current role I've got visibility of which types of investments benefit a community in terms of economic return. Some projects yield $4 or $5 for every dollar spent, which is good, but with building and construction development it's more like $10. We've got local apprentices who previously had to go to Palmerston North or Wellington to get work, and moving forward our residents will rely on local businesses for products and services."

For a developer with a genuine community focus, could there be a better legacy?

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Roofing Manufacturer:
Gerard Roofs
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Profile(s):
Milano (Textured), Rockport (Textured),Tuffcoat (Textured and Satin), Corona and Alpine
Roof installer:
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E-mail: Sales@allroofsolutions.co.nz
www.allroofsolutions.co.nz

A SHARED INTEREST IN GREEN, SUSTAINABLE HOMES

Architectural designer Sally Turnbull began her working life as a medical technologist but a stint as a builder's labourer while building her first home gave her a taste for architecture. She went on to study architectural technology and started her own company Architectural Draughting & Design Ltd in 2004.

Specialising in many large residential builds on rural properties, Sally had a natural affinity with homeowners Dale and Alison with their shared interest in greener and more sustainable homes with multiple future-proofing and sustainable features.

The brief from the client was for a comfortable and spacious family home, suitable for teenagers and from the outset they wanted better than the building code with Solar Rib roofing, in ColorCote® required from the outset both for future-proofing and aesthetic appeal, the widely spaced ribs giving clean and pleasing lines to the roof. Photo Voltaic solar collectors (PV) had already been installed on a new shed roof with Solar Rib, in ColorCote® providing the option to increase the potential solar power production going forward.

Dale and Alison's home is on a lifestyle block on the outskirts of Rangiora, set amongst a hazelnut orchard and only minutes away from the owners' business premises.

The home provides four bedrooms plus an office with a sound-proofed master suite away from a games room for harmonious life with teens. The large kitchen-pantry-dining-living space receives all-day sun and opens to outdoor rooms to east and west.

Solar Rib roofing, in ColorCote®, for future-proofing and aesthetic appeal. The widely spaced ribs gives clean and pleasing lines to the roof and provides an opportunity for future Photo Voltaic solar collectors.

There's a second lounge separated by cavity sliders which also access the verandah. Patios, an outdoor room, two bathrooms, double oversized garaging, large laundry, separate WC, a services porch, entry and media room complete the layout.

Bringing all he sustainable features together, the design process was influenced by the Solar Rib profile which determined many layout and flow decisions such as the orientation of the house with a long east-west axis enabling a large expanse of north facing roof to ensure future solar collectors would be as efficient as possible. The roof was pitched at 30 degrees for the same reason.

The 100 per cent recyclable ColorCote® Solar Rib roofing choice was easy, incorporating passive design principles, facing all the living and bedrooms to the sun and adding a verandah roof to the north facing bedrooms to provide shade in summer while allowing for winter sun.

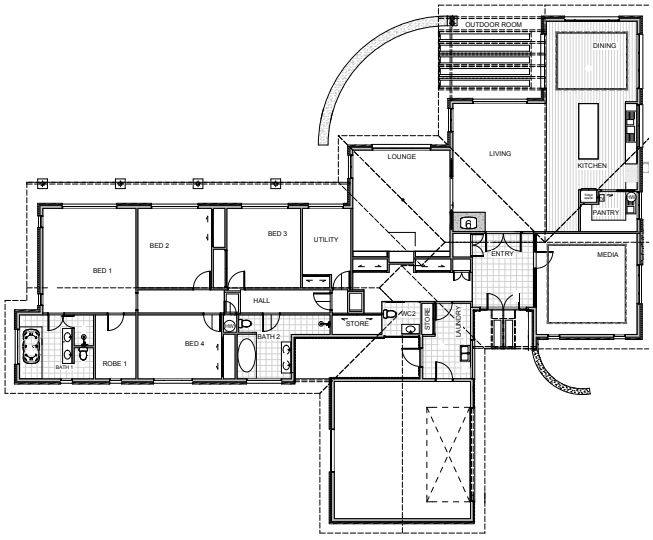
Sally designed for in-slab heating by a highly efficient air-to-water heat pump (powered by PV) and made sure the entire floor slab was well insulated and isolated from the exterior with a slab thermal break. Rainwater from the roof is collected via a sealed system for collection in a rainwater tank.

The 100 per cent recyclable ColorCote® Solar Rib roofing choice was easy,

Its current use is for garden watering but can easily be upgraded to provide potable water in the future.

Cladding for the home was a mixture of clay bricks from Austral (a company now making carbon neutral bricks) and FSC sustainably managed, certified cedar. Growing trees for firewood to fuel the wood burner in the living room is easy with the home's lifestyle block location.

In terms of meeting the owner's brief, Sally feels the home will contribute to the owners' well-being for decades to come. They immediately benefitted from their investment in that they have a warm, dry, quiet and comfortable home to live in; over time they will reap the rewards of minimal running costs from free power, water and heating long after the payback on the initial investment.



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Email: admin@mckenziebuilders.co.nz
Roofing Manufacturer: Dimond Roofing
Roofing Profile: Solar Rib in ColorCote®
Roofing Installer: CS Roofing Canterbury Ltd

Architectural Draughting & Design Ltd

Sally runs her business from a North Canterbury office, having formed Architectural Draughting & Design Ltd in 2004. She became a Licensed Building Practitioner in 2009 and joined Architectural Designers New Zealand (ADNZ) in 2012.

The company has completed many large residential homesteads on rural properties along with town houses, transportable homes, earth block houses, motels, hangars, renovations and a treehouse.

Interested in building sustainably, Sally encourages clients to aim well above building code minimums and always designs with the client's long-term well-being as the primary concern.

Married with three children, Sally has two grandsons and enjoys mountain biking, diving and tramping.

NZ STEEL MONITORING ENVIRONMENTAL EFFECTS

Introduction by Stuart Hayman

In 2007 NZMRM created its Sustainability Sub-committee following the creation of the NZ Green Building Council in 2005, and the development of the Green Star building rating system. At that time, we had wanted to have NZ made steel included in the Green Star system, but for various reasons this took until 2016 (and was reported on in Scope).

During the eleven years since, we have promoted the use of NZ steel in Scope and elsewhere and have used a lot of material emphasising the sustainability credentials of New Zealand Steel itself.

In the last couple of years we have decided to "recycle" some Scope technical and sustainability articles on the basis that many are still relevant and that many readers will either not have seen the originals or forgotten them.

What has been interesting is how much things have advanced in the sustainability arena (and how some haven't!) Reading material written and published in 2008-10 I am struck by the fact that some of this could just be reissued because we have the same problems – but also how much has change positively.

One of these areas is the amount of material available from NZ (and international) sources. In 2009, NZMRM wrote most of the material or adopted it from various sources. Today, we have an excellent resource in the NZ Steel website's Sustainability section, and rather than rewriting any of this, we now propose to use this material in bite-sized chunks and present it to Scope readers with some illustrations.

We will revisit items like use of water, transport and the manufacturing process (as well as how to use NZ made steel in the Green Star rating system) but first something new – how to monitor and assess their effects on the environment, with some emphasis on the use of water, of which NZ Steel use huge quantities. Here it is -

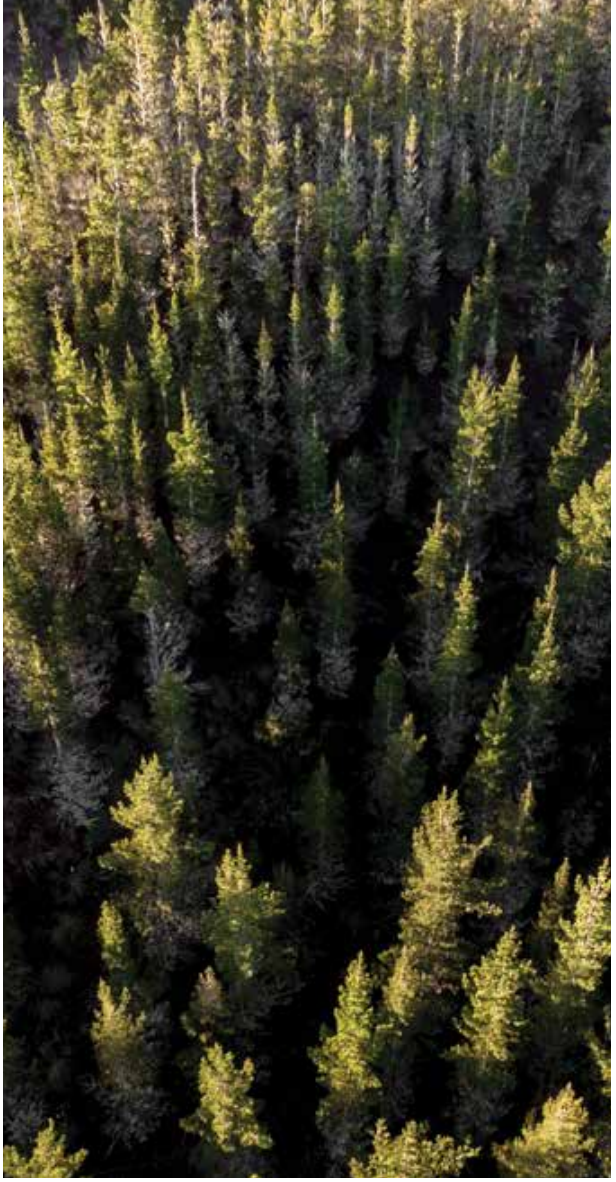
MONITORING ENVIRONMENTAL EFFECTS

Water management
New Zealand Steel's Environmental Management System places great importance on its commitment to minimise any effects of taking or discharging water, as well as controlling the use of water. In order to fulfil this commitment, the company employs a rigorous monitoring programme with regular reports to the Auckland and Waikato Councils, as well as the involvement of independent environmental consultants.

A rigorous monitoring programme has been established for assessing the water quality discharged to natural waterways, as well as the health of receiving environment. This includes:

1. Daily grab sampling
2. Continuous flow-proportional composite sampling
3. Biological monitoring in the mixing zone (the area where the discharged water mixes with estuary water)
4. Continuous turbidity sampling
5. Groundwater sampling

NZ Steel's laboratory is independently certified to undertake the analysis and Auckland Council accepts this self-monitoring regime. For verification periodically samples are duplicated, with one sample sent to an off-site laboratory to confirm the analytical techniques used by the NZS Laboratory. Telarc annually audit laboratory protocols to ensure that IANZ certification standards are maintained.



The quality of wastewater is controlled and monitored as it leaves the Steel Mills' wastewater treatment plants and treatment ponds. So Utilities staff will adjust the water quality on the basis of the continuous readings they receive in the control room.

Daily Grab Samples
To verify discharge consent conditions are being met, each day New Zealand Steel laboratory staff take samples of the wastewater at the point the discharge enters the Waiuku Estuary. The grab sample is a 5-litre container of discharged water collected at the same time the day's composite sample is collected. The onsite laboratory tests these samples and the results are reviewed to ensure that discharges continue to comply with resource consent conditions for a range of analytes. The results are reported to the Council each month, and the Community Environmental Committee four monthly.

Composite Samples
The composite sample is taken on a 24 hour flow-proportional basis. That means at the Northside Outfall, for every 100 tonnes of water discharged from the steel mill a sample of water is abstracted into that day's sample container. After 24 hours, these samples are taken to the NZS laboratory for analysis. The results of all discharge samples are electronically transmitted to operations and environmental staff who compare the results with the conditions set by the resource consent. In the rare event a discharge consent condition is not met a thorough investigation is undertaken and remedial action put in place quickly. This incident report is also shared immediately with Council.

Discharge Water Quality Standards
On the Northside and Southside outfalls, the elements which are analysed in the laboratory and the frequency of sampling are listed below. These are specified in the resource consents held by New Zealand Steel.

Daily
- temperature
- pH (acidity scale)
- suspended solids
- dissolved oxygen
- a range of metals

In addition continuous turbidity (clarity) meters operate on the separate ironsand dewatering plant discharge and treatment ponds collecting surface runoff from the raw materials yards., where the only potential contaminants are clay minerals derived from the ironsand deposit.
The WNH mine also uses a continuous turbidity for its discharge to the Waikato River.

Weekly/monthly
- oils
- a range of metals

Biological Monitoring in Mixing Zone
Where the wastewater discharges into the Waiuku Estuary there is an area in which the wastewater mixes with the water of the Estuary. This is referred to as the New Zealand Steel 'mixing zone'. Independent biological consultants sample in the mixing zone to ensure that marine life is not being adversely affected. This includes density of the Pacific Oyster (considered a key indicator species as it is a filtration feeder) and macro-invertebrates

Continuous monitoring of the effect of Glenbrook's operations is an essential part of NZ Steel's commitment to minimise emissions.

which are minute creatures living in sediments. The water quality standards set for the wastewater discharge to the Waiuku Estuary were derived following consideration of the potential for adverse effects on marine organisms and possible accumulation of metals in sediments within the mixing zone. Monitoring of metals in sediment and shellfish provides a sensitive indicator of the degree of contamination by metals in the marine ecosystem. The monitoring results for shellfish and sediments within the mixing zone are forwarded to the Auckland Council. The Council also conducts surveys in the Waiuku Estuary and wider Manukau Harbour.

Monitoring Air Quality in the Community

New Zealand Steel has an ambient air monitoring programme in place to assess air quality at the boundary of the industrial site and in the community. Continuous monitoring of the effect of Glenbrook's operations is an essential part of the company's commitment to minimise emissions. When ambient dust levels reach levels are nearing the national standard at any of the 6 ambient monitoring stations then an alert is sent to environmental and operational staff to investigate what can be done to reduce the dust leaving the site.

The air emissions discharged via stacks are also monitored regularly. Sampling equipment is inserted inside the stack and a sample is taken to measure the volume of dust emitted from the stack, or hydrogen chloride levels in the case of the pickling line, where acid is used in the process.

The regular monitoring programme includes:

- Measuring total suspended particles in the air, at six sites in the community
- Measuring particle matter and chemicals in stack emissions

T**he objectives of the monitoring programme are to:**

- Observe trends and patterns in ambient air quality over time
- Make sure that the company complies with its consent conditions
- Obtain data about background levels of air contaminants
- Confirm that air pollution control equipment is cleaning air emissions effectively

Reducing Noise from the Industrial Site

Steelmaking and processing produces noise and much effort has been put into minimising the levels of noise from the site by integrating acoustic design with process design and plant layout. Silencers are used on air intakes and waste gas fan exhausts in the iron and slab-making plants. Thermal insulation, such as refractories and lagging, also serve to reduce noise. Very high noise sources are located in special acoustic structures or within buildings. Other measures to control noise include limiting the hours when the company's landfill can be operated to avoid the noise of large vehicles disturbing close neighbours. The Auckland Council sets the noise standards for the steel mill. Every three months noise control equipment is set up at six monitoring stations by an independent acoustic specialist - set at a 1,200 metre radius from the steel mill - to measure the level of noise in the area. Noise monitoring is done at night as this is the time when weather conditions are most stable and people are most likely to be affected. The average night-time noise level around the steelmaking plant is typically less than 45 decibels - this is the same level as that of a typical suburban area. Daylight noise levels are set slightly higher and are also typical of an urban area.

So, while NZ Steel have continued to provide much resource into being ever more sustainable in their processes, they have also been measuring progress in those areas which affect the receiving environment. We will discuss some of these in later articles.
Thanks to NZ Steel for use of their material. For Further information visit www.nzsteel.co.nz/sustainability/

SCOPE

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